



# MINOR WWTP FUNDING PRIORITIZATION USING BAY RESTORATION FUNDS

## Smart Growth considerations



Sustainable — Attainable

## Challenges to meeting Smart Growth Goals:

### Town responses to past growth trends have led to very different projections:

- Some Towns have been more aggressive with planning to hopefully make up lost growth needs for fiscal sustainability,
- Some have merely followed past trends that could leave the towns unable to accept new growth on public sewer leading to more septic system development.

### Available water supplies vs Poor soil percolation:

- Some Towns (Piedmont Areas mostly) are limited by MDE's groundwater recharge requirements per unit area of land that makes PFA densities more difficult to achieve.
- Some Towns (Coastal Areas mostly) that will need to utilize spray irrigation for wastewater discharge will require large areas of land to meet percolation requirements.



## Local considerations for accepting BRFs for ENR upgrade:

- The Town will have to accept a reduction in its current TN discharge limit, equivalent to the highest permitted design capacity at 4 mg/L of nitrogen, which on average will be approximately 2/3s of its current established limit.
- The lower TN discharge limit will have a real and “perceived” impact on growth potential to the area it is projected to serve.
- The status of its current flows, including any Inflow & Infiltration (a number of minor WWTPs are operating over 75% of current permitted and design capacities).
- Will the smaller flows actually reach the ENR capabilities?

## Solutions to meeting growth needs for towns with Minor WWTPs (given TN caps):

- Improving technology or performance beyond the 4mg/l TN standard for ENR.
- Connecting existing septic system development to the WWTP to gain credit to exceed TN cap.
- Wastewater re-use and reducing I&I.
- Nutrient trading between WWTPs with surplus TN and those at the limits of TN.
- And, the creation of a TN reward program for “Smart and Sustainable Growth” development that has incorporated all above.

## Prioritization Point Assignment

### 35 points:

- (1) Municipal Growth Element (MGE), Priority Funding Area (PFA), and County Water and Sewerage Plan (WSP) are all coordinated and the growth goals are reasonable. The service area is within a Sustainable Communities designation or PlanMaryland Targeted Growth & Revitalization Area;
- (2) Implementation of the Watershed Implementation Plan (WIP) would be greatly facilitated.
- (3) Credit Achievement: High (Conservation, Re-Use, Higher quality treatment levels, and existing septic removal are all readily attainable)
- (4) Overall stream flows and water quality of receiving waters are of highest concerns.



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## Prioritization Point Assignment

### 20 points:

- (1) MGE and PFA are coordinated but the County WSP needs to be updated or amended and the growth goals are reasonable.
- (2) WIP implementation would be moderately facilitated and there is a moderate number of nearby septic tanks within the PFA that could be connected.
- (3) Credit Achievement: Medium (Conservation, Re-Use, Higher quality treatment levels, and existing septic removal are likely attainable).
- (4) Overall stream flows and water quality of receiving waters are a moderate concern.



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## Prioritization Point Assignment

### 10 points:

- (1) MGE is current and growth goals are reasonable, PFA is "comment area" or not established yet, area is not in WSP.
- (2) WIP implementation would be facilitated but very few nearby septic tanks are within the PFA that could be connected.
- (3) Credit Achievement: Low (Conservation, Re-Use, Higher quality treatment levels, and existing septic removals are possible.)
- (4) Overall stream flows and water quality are a minimal concern.



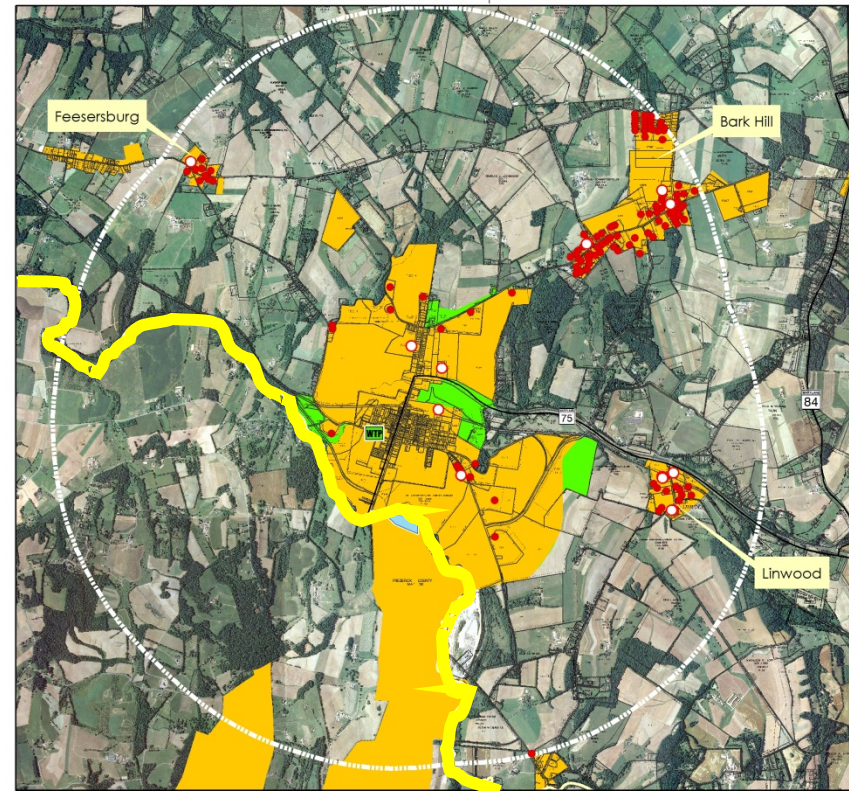
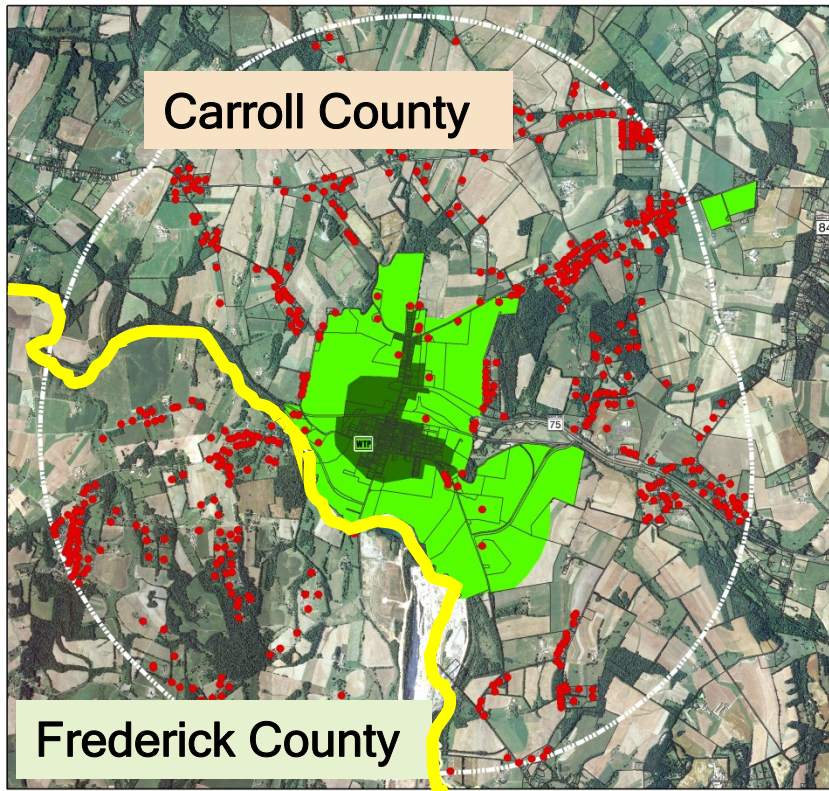
Sustainable\_\_\_Attainable



# Improved Parcels on Septic Systems near Union Bridge WWTP



Smart Growth & Analysis Division  
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### Union Bridge Sewer Service Areas

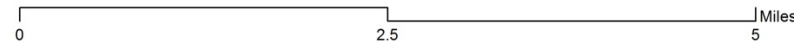
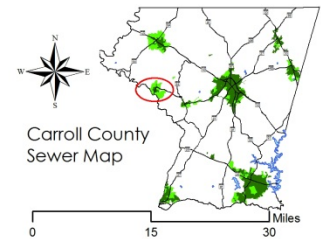
- Existing
- Planning

- Union Bridge WWTP
- Union Bridge WWTP 2 Mile Buffer
- RV Rural Villages

- 397 Located in Carroll County
- 146 Located in Frederick County
- 543 Total Improved Parcels on Septics Outside of Existing Service (or "S1")

### Priority Funding Areas

- Certified Priority Funding Areas
- 127 Improved Residential
- 14 Improved Non-Residential
- 141 Total Improved Parcels on Septic w/n PFA





**Union Bridge WWTP Stats:**

- WWTP Capacity: 200,000 Gal (design and permitted flow)
- Current WW flow: 153,000 gpd
- % of Capacity: 76.5%
- Housing units under current approval process (all within PFA): 456 units
- Immediate anticipated sewer demand: 114,000 gpd (456x250gpd)
- WWTP shortfall: 67,000 gpd (this does not include demands for non-res.)
- Current TN discharge limit: 6,140 lbs/yr (equiv to an ENR .5MGD WWTP)
- Proposed ENR TN limit: 2,435 lbs/year (based on .200 MGD design)
- Suggested TN limit to meet immediate and short term needs:  
     3,653 lbs/year  
     (based on .300mgd flow at TN 4mg/gal )
  
- 20 year projected sewer demand (total): 870,000 gpd (accelerated growth)



## Union Bridge Growth Stats:

- Slight population decline between 2000-2010 from 989 to 975
- According to 2007 Comprehensive Plan Town expects to add about 280 people by 2028. (Based on growth rate of .836 annually between 90-00)
- Housing units under current approval process: 456 units
- The Carroll County 2012 Buildable Land Inventory estimates the Town has: (within the Town municipal boundary)
  - Residential capacity for 676 additional lots on 168.1 acres
  - Commercial vacant land of 5.4 acres and 5.6 acres partially developed
  - Industrial vacant land of 18.5 acres and 2.1 acres partially developed

